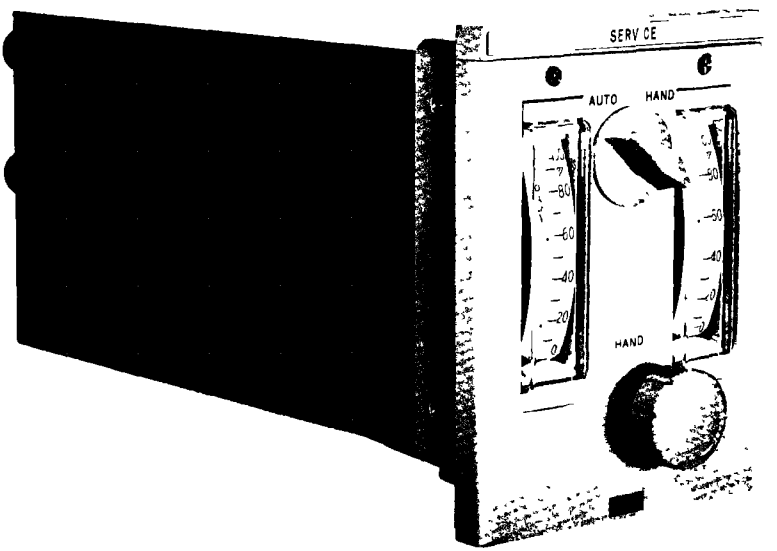
Bailey

SECTION
P91-4

PRODUCT INSTRUCTIONS

*MINI-LINE** 500 HAND/AUTOMATIC STATION



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BAILEY METER COMPANY • WICKLIFFE, OHIO 44092

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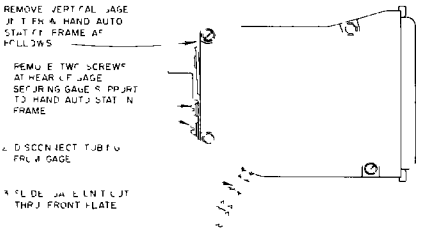


FIGURE 1 - Removing Vertical Gage Unit from H/A Station

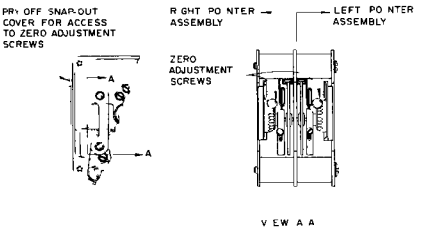


FIGURE 2 Vertical Gage Unit Zero Adjustment Screws

INSTALLATION

Pre Service Adjustment Check

IMPORTANT· Before placing H/A Station in service, check adjustment of vertical gage units as outlined below For convenience, perform this check at a test bench before the H/A Station is installed in the panel

1 Position H A Station at angle at which it will be mounted in service Apply pressure corresponding to 10% scale to H A Station input connection If pointer reads correctly, proceed to step 4

2 If pointer does not read correctly, remove vertical gage unit from H A Station as outlined in Figure 1

3 Remove snapout cover (Figure 2) and turn zero adjustment screw until pointer reads correctly Reinstall cover

4 Apply pressure to gage unit corresponding to 90% and 50% scale If pointer readings are correct, proceed to step 5 If readings are incorrect, refer to Vertical Gage Unit Adjustment", page 7

Mounting H A Station on Panel

Hand Automatic Stations are designed for plug in mounting in a panel mounted enclosure (Figure 3) Install enclosure as follows

5 Make panel cutout in accordance with Figure 3

6 Loosen mounting screws on front plate which secure H A Station to enclosure and remove Station

7 Slide enclosure thru cutout from front of panel

8 Place mounting clips (in bag tied to enclosure) in position on enclosure Tighten clips securely against panel

9 Slide H A Station into enclosure and secure with mounting screws in front plate

Installing Connecting Tubing

10 Connect external tubing to manifold connections on rear of enclosure (Figure 3) Connection ports are 1 4 18 NPT female Use 1/4 inch O D copper, aluminum, or plastic tubing

Cleaning Scale Cover

11 Remove protective tape from scale cover Clean cover with toothpaste or Plastar', plastic cover cleaner and polish (obtainable from Bailey Meter Company in 10 ounce jar specify Part Number 199274 1)

CAUTION· Do not use a solvent which will scratch cover finish or react with plastic cover

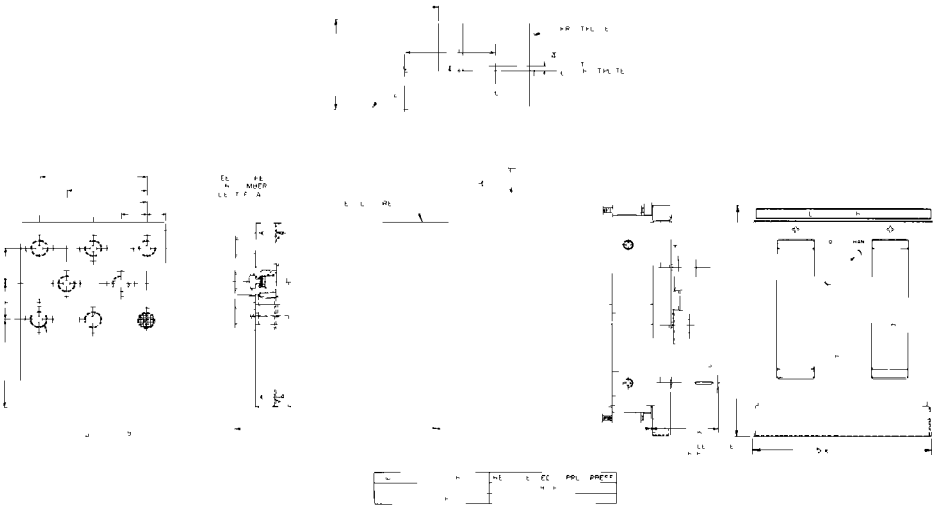


FIGURE 3 H/A Station Mounting Dimensions

OPERATION

Before transfer conditions within the control system must be set so there is little or no variation in control pressure to the power unit as transfer takes place Procedures for transferring from AUTO to HAND and from HAND to AUTO are outlined below Refer to Figures 4 and 5

Transfer from AUTO to HAND

1 With HAND control knob set transfer pressure (gage C) equal to control pressure (gage D)

2 Turn transfer switch to HAND

Transfer from HAND to AUTO

1 With HAND control knob slowly set control pressure (gage D) equal to transfer pressure (gage C)

2 Turn transfer switch to AUTO

Alternate HAND to AUTO Transfer

The procedure above for transferring from HAND to AUTO may not always be practical In this case the alternate method given below may be followed

CAUTION This alternate procedure should be used only where the H/A Station transfer pressure (i.e , system set point, controller output, etc ,) may be changed without endangering the process

1. Adjust set point (or other system condition) until transfer pressure (gage C) is equal to control pressure (gage D)

2 Turn transfer switch to AUTO.

3 Return set point to desired value.

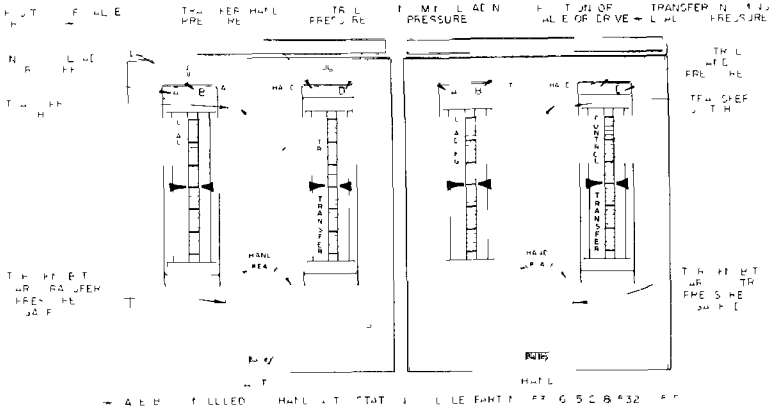
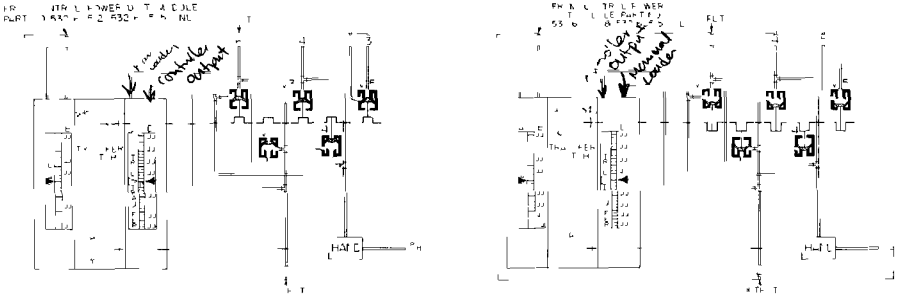


FIGURE 4 H/A Station Controls and Gages



AUTO POSITION HAND POSITION

FIGURE 5 - Schematic of H/A Station

ROUTINE MAINTENANCE

1 Maintain a clean air supply, free of oil or moisture

2 Check filter in supply inlet port at manifold shortly after installation If filter (Item 3B and 3C, Figure 11) must be replaced, remove wire mesh disc felt pad, and second wire mesh disc Install new filter, making certain wire mesh disc is inserted in inlet port before inserting felt pad

3 Periodically depress orifice clean out plunger (Figure 6) on rear of hand relay to insure that the orifice remains open and clean CAUTION This operation should only be performed when relay is being bench tested since depressing the plunger while relay is in service may disrupt the process

4 Whenever necessary, clean plastic scale cover as follows

a Remove (and replace) scale cover as shown in Figure 7

b Clean cover with a soft cloth which will not scratch the plastic surface Use tooth paste or "Plastar", plastic cover cleaner and polish (obtainable from Bailey Meter Company in 10 ounce jar specify Part No 199274 1) Do not use a solvent which will scratch cover finish or react with plastic cover.

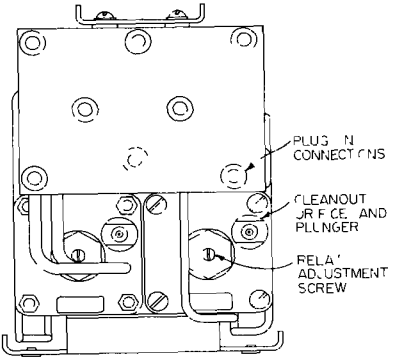


FIGURE 6 Rear View of H/A Station (Removed from Enclosure)

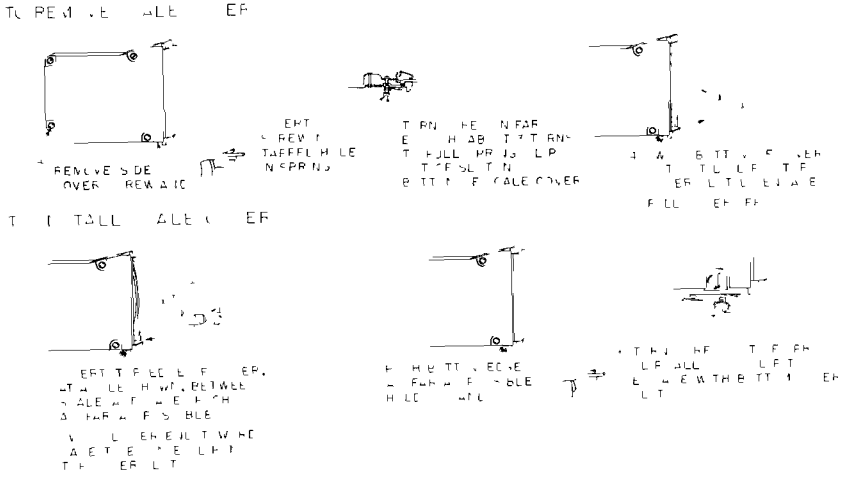


FIGURE 7 Removing and Replacing Vertical Gage Unit Scale Cover

CORRECTIVE MAINTENANCE

Vertical Gage Unit Adjustment

If operational faults occur which are traced to the vertical gage units, make the following adjustment checks·

1 Remove gage unit from H/A Station as shown in Figure 1 Pry off snapout cover and remove side cover for access to gage unit ad justments (see Figure 2)

2 Apply pressure to Bourdon tube and check block assembly for leakage with a soap suds solution If a leak is found, replace entire gage unit The damaged unit may be returned to the factory for repair

3 Check all links to see that they are properly connected and that they move freely with Bourdon tube movement

4. Make certain that indicating pointer does not rub against side or face of scale If necessary, bend pointer slightly until it clears scale

5 Check pointer adjustment as outlined below

a Apply pressure to gage equivalent to first major scale division above 0% scale If pointer does not read correctly, turn zero ad justment screw (Figure 8) until desired read ing is obtained

b Apply pressure to gage equivalent to first major scale division below 100% scale If pointer does not read correctly, turn range adjustment screw (Figure 8) until desired reading is obtained

c Repeat steps 5a and 5b until pointer reads correctly at both scale divisions

d Apply pressure to gage equivalent to midscale division If pointer does not read correctly, but does read correctly in steps 5a and 5b above, alter the shape of U-link at free end of Bourdon tube as follows· 1) If midscale point er reading is low, spread link slightly, or 2) If midscale pointer reading is high, close link slightly

6 Repeat steps 5a thru 5d until pointer reads correctly over full scale

7 Apply 2 psig to Bourdon tube (pointer will read slightly below minimum scale mark) Loosen minimum stop screws (Figure 8) and position minimum stop next to Bourdon tube end stop, tighten screws

8 Apply pressure to Bourdon tube corresponding to maximum scale value plus 0 25 psig (pointer will read slightly above maximum scale mark) Loosen maximum stop screws and po sition maximum stop next to Bourdon tube end stop, tighten screws

9 To return gage unit to service, reverse the order of the operations outlined in step 1 above

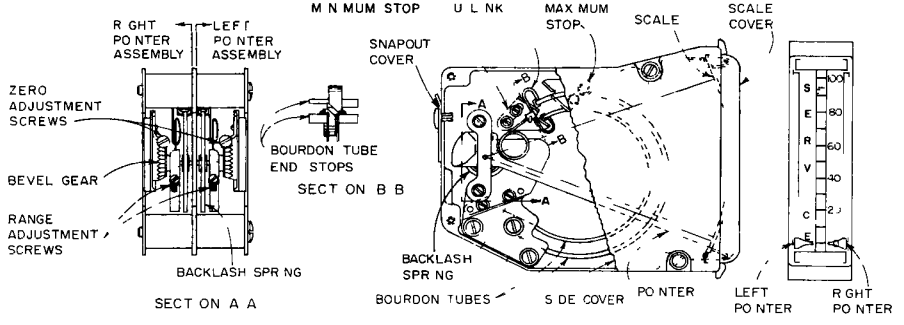


FIGURE 8 Vertical Gage Unit Adjustments

Hand Relay Disassembly

To disassemble the Hand Relay (Part No 5321995 □) for cleaning or replacement of parts proceed as follows

1 Refer to Figure 11 Disconnect tubing and remove two screws (26) holding gage support (13) to support bracket assembly (30)

2 Remove screws holding manifold to Relay and slide manifold and support bracket rearward

3 Remove two socket head screws (36) holding Relay to support bracket (30) and remove Relay

4 Refer to Figure 12 Unscrew valve cap (7) and remove valve stem (11), inlet valve seat (13), and valve seat spring (15) CAUTION Do not disturb setting of relay adjustment screw (Figure 6) at center of valve cap This setting is factory set and should not be disturbed unless control bellows has been removed or replaced (see "Hand Relay Adjustment")

5 Unscrew orifice clean out assembly (4) and orifice (14)

6 Relieve spring compression by rotating center adjustment gear (27) counterclockwise until it turns easily.

7 Remove four nuts (at corners of valve housing face) and screws securing spring housing (23) to valve housing (9) and separate housings

8 Pull control bellows assembly (16) from valve housing (9) Control bellows assembly is held by exhaust valve diaphragm which snaps into place around valve seat.

9. If desired, unscrew loading spring assembly (19) from adjustment shaft (left hand) thread

10 To reassemble reverse above procedure observing the following precautions

a When replacing control bellows assembly (16) make certain exhaust valve diaphragm (29) is properly snapped into place around exhaust valve seat

b When replacing orifice clean out assembly (4), make certain that clean out wire is not bent and passes clean thru the orifice

c. Make certain that all O rings are undamaged and properly installed Apply lubricant to O rings when reassembling relay

Hand Relay Adjustment

1 Connect output pressure line of Relay, thru a petcock, to a volume chamber equipped with a suitable pressure gage (0 30 psig) for indicating chamber pressure Volume chamber may be any pressure tight container with volume of about 300 cubic inches

2. Open petcock and adjust H A Station control knob to obtain 3 psig pressure in volume chamber

3 Close petcock and adjust control knob to obtain 15 psig (for 3 15 range) or 27 psig (for 3 27 range) output pressure from Relay (read output pressure on H A Station gage)

4 Open petcock and note time rate of pressure increase in volume chamber.

5. Close petcock and adjust control knob to obtain 3 psig output pressure from Relay

6 Open petcock and note time rate of pressure decrease in volume chamber

7 If inlet valve seat is properly adjusted, the time rate of pressure increase as noted in step 4 will be equal to the time rate or pressure decrease as noted in step 6 If these rates are not equal (or if the control bellows or nozzle bellows has been replaced), it will be necessary to make the following adjustments

a If time rate of pressure increase is greater than the rate of pressure decrease, turn adjustment screw (Figure 6) counterclockwise

b If time rate of pressure decrease is greater than the rate of pressure increase, turn adjustment screw clockwise

NOTE By turning the relay adjustment screw (Figure 6) on the rear of the H A Station, the inlet valve seat position can be changed with respect to the neutral position of the exhaust valve seat, in effect, controlling the relative openings of the inlet valve and exhaust valve for a given position of the control bellows

Front Plate Disassembly

1 Remove vertical gage units as shown in Figure 1

2 Refer to Figure 11 Remove HAND control knob (27) by driving out steel lockpin (28) and pulling knob off shaft Then slide knob off shaft AUTO HAND transfer switch need not be removed

3 Remove two screws (15) at rear of front plate (17) which secures plate to H/A Station frame

4 To reassemble, reverse the above procedure observing the following precautions

a When placing front plate (17) on H/A Station frame, fit pins at top and bottom of plate into corresponding slots in frame and align transfer switch and valve operator lever (22) so that transfer switch pin fits into hole at top of lever (22).

b When replacing control knobs, slide knobs on respective shafts Replace lockpin in HAND control knob shaft

Shut Off Valve Disassembly

1 Refer to Figure 11 Disconnect tubing at vertical gage units and remove screws at Relays

2 Remove four screws (12) and (14) (two at front end of plate and two at rear end next to nameplate) which secures shut off valve mounting plate (top of H, A Station) to frame Do not disturb screws holding valves to plate

3 Set transfer switch (23) (or valve operator lever (22) if front plate has been removed) in vertical position between AUTO and HAND

4 Slide shut off valve assembly (10) (plate valves and tubing) to rear to disengage valve stems from valve operator shaft When disengaged, assembly can be lifted from H/A Station

5 To disassemble individual shut off valve, unscrew plug (10e) at bottom of valve and remove spring (10d), stem (10b), and diaphragm (10f). To reassemble, reverse the above procedure. Valve stems must be in alignment to engage valve operator shaft

Valve Operator Lever and Shaft Disassembly

1 Remove vertical gage units (shown in Figure 1), front plate (see above) and shut off valve assembly (see above)

2 Refer to Figure 11 Remove hex nut (25) at front end of shaft and slide valve operator lever off shaft

3 Unscrew bearing (9) which supports end of shaft.

4 Slide shaft to rear until front end clears supporting bearing Remove shaft from frame

5 To reassemble, reverse the above procedure

Drive Shaft Disassembly (Control Knob to Relay)

1 Remove vertical gage units (as shown in Figure 1) and front plate (see above).

2 Refer to Figure 11. Remove retaining ring (34) at rear end of shaft.

3 Back off cone point set screw (32) in perimeter of gear (33) until gear is free of shaft

4 Slide shaft out thru front of unit and remove gear

5 To reassemble, reverse the above procedure.

SCHEMATIC OPERATION

Typical Application of H/A Station

Figure 9 shows a typical control application. A signal pressure proportional to the measured variable is applied to the A bellows of the Proportional Plus Integral Controller (indicated on gage A) The Controller output pressure is transmitted thru the H A Station to the power unit

When the H/A Station is in the HAND position, tie back pressure is provided from connection 4 thru connection 5, shut off valve V5 and connection 3 to the C bellows of the Controller. On HAND operation, the tie back pressure holds the Controller output pressure approximately equal to the control pressure, facilitating smooth transfer to automatic operation Where tie back pressure is not required, connection 4 is plugged and connections 3 and 5 are left open to atmosphere

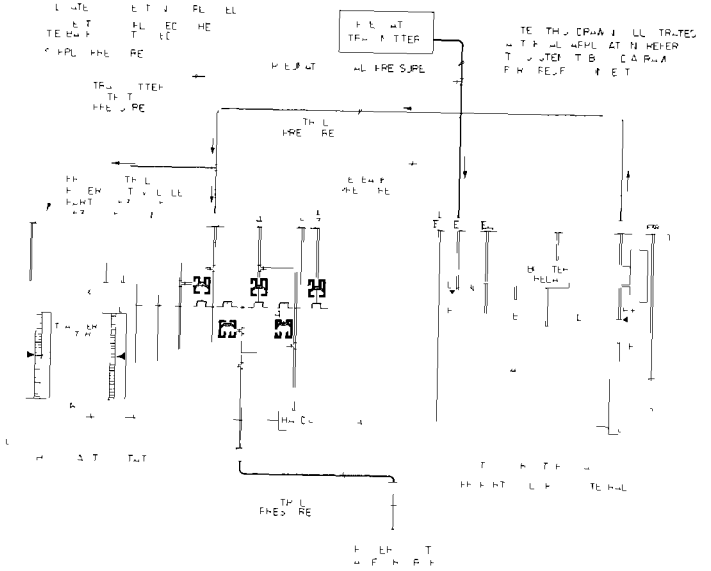


FIGURE 9 - Typical Application of H/A Station

Hand Relay

Hand output pressure is established by the Hand Relay (Figure 10). Compression of the loading spring is opposed by pressure in the control bellows so that forces due to spring compression and output pressure are always equal when the unit is balanced. Pressure in the control bellows is regulated by the inlet exhaust valve assembly. At balance, the inlet valve is held closed by the difference between supply pressure and control bellows (output) pressure. Leakage of supply air thru the bleed orifice maintains the exhaust valve in a floating position.

Turning the HAND control knob in the "increase" direction compresses the loading spring, compressing the control bellows, closing the exhaust valve, opening the inlet valve, and admitting supply air to the control bellows. Control bellows pressure increases until bellows expansion is sufficient to restore the inlet exhaust mechanism to its original position (inlet valve closed, exhaust valve floating). Output pressure is then proportional to the increased loading spring compression.

Turning the control knob in the "decrease" direction reverses the operation described above.

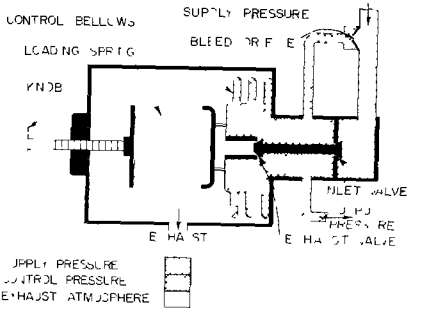


FIGURE 10 Schematic of Hand Relay

REPLACEMENT PARTS

Spare Parts Kits

The Spare Parts Kits shown in Figure 11 12, and 13 should be carried in stock Specify the Spare Parts Kit part number to order a complete kit

Ordering Individual Parts

Figures 11, 12, and 13 are Parts Drawings of the Hand/Automatic Station Normally, these drawings apply to the unit furnished. However, there may be individual differences in specific units because of

a design changes made since the printing of this Instruction Section, or

b. special design of the Hand/Automatic Station to make it suitable for a special application

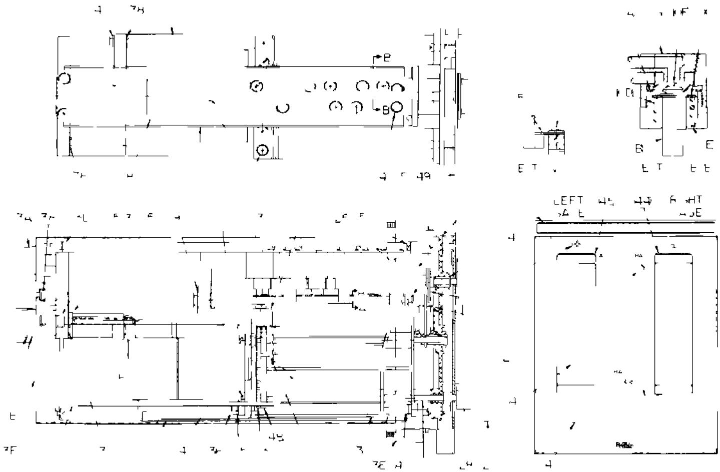
Therefore, when ordering parts, assure the receipt of correct replacements by specifying the Hand/Automatic Station Module Part Number.

EXPLANATION OF NOMENCLATURE

H/A STATION MODULE PART NO.	H/A STATION NOMENCLATURE*	RANGE (PSIG)	LEFT GAGE SCALE LEGEND	
			LEFT INDICATOR	RIGHT INDICATOR
5321605 1	AJ02B10	3 27	Loading	
5321605 2	AJ02B20	3-27	Loading	Position
5321605 3	AJ02B50	3 27	Direct Reading**	
5321605 4	AJ01B10	3-15	Loading	--
5321605-5	AJ01B20	3-15	Loading	Position
5321605-6	AJ01B50	3 15	Direct Reading**	

*NOMENCLATURE appears only on the H/A Station Specification Sheet included in Instruction Books furnished on system or contract jobs. A "5" in the third position of the Nomenclature indicates that the H/A Station module is complete with enclosure Part No. 5322407 2 An "X" in any Nomenclature position indicates that the instrument is special.

**SCALE LEGEND engraved in terms of variable such as, FLOW, LEVEL, PRESSURE.



EM	PART O	AME
	19 43 2	DES ATION PLATE
	532240	EN LOSURE NCL DES
3A	53 474 1	CONNE T N MANIFOLD
3P	5370414 1	FELT PAD 2 REQD
3	53904 3 1	WIRE MESH D S 4 REQD
3D	3	PAN HD SEMS INT 4 REQD
3E		MOU T N P 4 REQD
F		NAMEPLATE SEE IF TYPE A D MODEL FOR CORRECT EN RAV
4		SEE TABLE HA D A TOMAT C STAT ON ASS INCL TEMS 5 THR
5	5316 1 1	VALVE OPERATOR
	32 3	PAN HD SEMS NT 5 REQD
	21995	HA D RELAY ASSEMBLY*
	19 35	NAMEPLATE
	14 35 1	VALVE SHAFT BEARIN
		SEE TABLE P P N ASSY INCLUDES
10A	531436 1	D AFH WASH 5 REQD
1 B	531487 1	VALVE STEM 5 REQD
1	53 48 1	THR ST WASH 5 REQD
1 D	53 6 9 1	SER N 5 REQD

TEM	PART NO	AME
10E	5314868	AIR VALVE PL 5 REQD
10F	53 45 4	AIR VALVE DIAPH 5 REQD
10	14976 1	#5 AIR VALVE BODY
11	5314644 1	VALVE PERATIN SHAFT
1	13 3	PAN HD SEMS NT 6 REQD
13	5316833 1	A E S PPORT BRKT 2 REQD
4	8	F D SEMS T 2 REQD
15	10 3 8	PAN HD SEMS EXT 2 REQD
1	5323789 1	SPE IAL MT S REW 2 REQD
17	532 674	FRO T PLATE
1	5323 3	K B SHAFT ASSEMBLY
	5316	SPRIN U DE ASSEMBLY
20	4652	VALVE OPERATOR SPRIN
	4661 1	SPRING HOLDER
	531461 1	VALVE PERAT R LEVER
3	5 444 1	SELECTOR K OB
24	1981 3 3	RETAIN R RIN
25	19 3	PLAST STOP T
26	13 4	PA HD SEMS INT 4 REQD
	53	CONTR L K OB
2	1 3 4	ROLL P

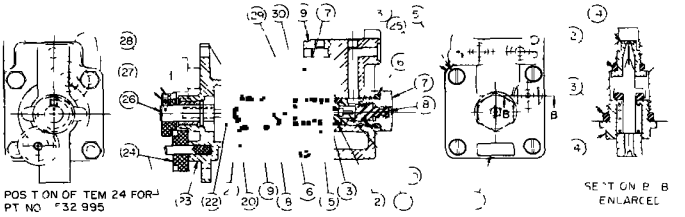
TEM	PART NO	AME
	53 1	BRA KET ASSEMBLY
31	1	PE RT BRA KET ASSEMBLY
3	539212	DR VE SHAFT
3	1 1 1	HEX HD ONE PT SS
33	1 79 1	ADJUSTMENT GEAR
34	93173 1	RETAIN R N
35	# 30 0	SHAKEPR OF LK WASH 5 REQD
3	1 3 8	HEX D SCREW REQD
38	531 4	C R N AS FT REQD
4	5 8	HE H SEMS EXT REQD
44		SEE TABLE VERTI AL GAGE RIGHT **
45		SEE TABLE VERTI AL GA E LEFT *
46	1 32 1 2	PAN HD SEMS NT 2 REQD
4	5319 1 1	SCALE ASSEMBL SEE TABLE
48	4 1 8	HEX K HD P ET SS
49	94 9	FRO T PLATE ASSEMBLY
53	1	PAN HD SEMS EXT 3 REQD
	2 1	MANIFOLD S PPORT BRA KET

*FOR DETAILS OF HAND RELAY PART NUMBER 5291995 1 SEE PARTS DRAWING P91
**FOR DETAILS F VERTICAL A E UNIT SEE PARTS DRAWING P1

TABLE					
ITEM 4	RANGE PSI	TEM	TEM 44	TEM 45	ITEM 4
53916 5 1	3	539261	53 494 24	5315438	OMIT
53 6	3	53296 3	5314945 24	531494 35	OMIT
53 6	3	53261	53 4945 24	53 43	1 REQD
53 605 4	3 15	53 6 2	5318134	53 6	OMIT
5316 5	3 15	5392612	5318 34	5319135	OMIT
531605 6	3 5	53 3	18134	53 34	1 REQD

SPARE PARTS KIT	
KIT PT 56	
Q ANTITY	TEM
	20
	3L
4	C
	D F
14	

FIGURE 11 Parts Drawing P91 10, Hand Automatic Station

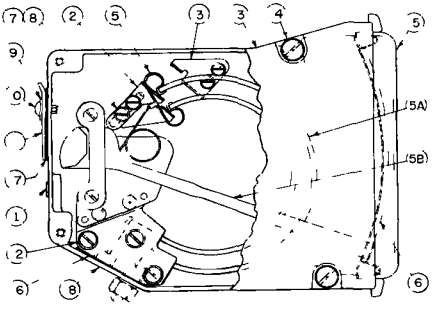


ITEM	PART NO	NAME
1	CODE LABEL	SPECIFY NO ON LABEL WHEN ORDERING PARTS
2	5311428 2	O RING GASKET
3	53 1428 11	O RING GASKET
4	53164 8 1	ORIFICE CLEANOUT
5	10 32x2 1 4	FILLHD SCREW 4 REQD
6	53 1428 7	O RING GASKET
7	5316809 1	VALVE CAP
8	5316808	VALVE ADJ SCRW
9	5321892	VALVE HOUSING
10	5311428 20	O RING GASKET
11	531681 1	VALVE STEM
12	5311428 23	O RING GASKET
13	53 497 1	VALVE SEAT ASSY
14	5316464	ORIFICE ASSEMBLY
15	5316844 1	VALVE SEAT SPRING

ITEM	PART NO	NAME
16	5316802 1	CONTROL BELLOWS ASSY
17	5311428 24	O RING GASKET
18	5316817 1	SPRING SUPPORT
19	5316819 1	LOADING SPRING
20	5316816 1	GUIDE & SPRING SUPPORT
21	1981-3 3	RETAINING RING
22	5316814 1	ADJUSTMENT SCREW
23	5323245 2	SPRING HOUSING
24	5316998 1	ADJUSTMENT GEAR
25	NO 10	PL PATT MED LK WASH 4 REQD
26	5316815 1	ADJUSTMENT SHAFT
27	5316 93 2	ADJUSTMENT GEAR
28	66161 1	CONE PT SET SCR
29	5316812 1	EXHAUST VALVE D APHRAGM
30	53 6813 1	DIAPHRAM C AMP
31	3 32	MET HEX NUT 4 REQD

SPARE PARTS KIT NO 25 27 1
INCLUDES ITEMS 2 4 6 10 12 15 19 31 29

FIGURE 12 - Parts Drawing P91 7, Hand Relay Part No. 5321995 1



ITEM	PART NO	NAME
1	CODE LABEL	SPECIFY NO WHEN ORDERING PARTS
2	SEE TABLE	MINIMUM STOP
3	SEE TABLE	MAXIMUM STOP
5	SEE NOTE	MECHANISM ASSY INCLUDES ITEMS 5A & 5B
5A	SEE NOTE	BOURDON TUBE & BLOCK ASSY
5B	SEE NOTE	POINTER SEE TABLE
6	SEE NOTE	SCALE ASSY
7	#3 48x3 1/8	PAN HD STL SCR 4 REQD
8	NO 1203	SHK LK WASH 4 REQD
9	5316456 1	WASHER 2 REQD
10	5314337 1	FASTENER 2 REQD
11	5314336 1	COVER PLATE ASSY
12	6 32x7/8	PAN HD EXT SEMS 3 REQD
13	SEE NOTE	COVER
14	6 32x1/4	PAN HD EXT SEMS 4 REQD
15	5314294 1	SCALE WINDOW
16	SEE TABLE	GASKET
17	5322345 1	GASKET
18	SEE NOTE	CASE ASSY

SPARE PARTS KIT NO 25B028 1	
QUANTITY	ITEM NO
2	15

POINTER	GAGE UNIT RANGE	ITEM 2	ITEM 3	ITEM 16
DOUBLE	3 2"	5315411 1	5315411 2	5322195 2
SINGLE	3 2	5315411 1	5315411 2	5322195 1
SINGLE	3 15	5315 01 1	5315411 1	5322195 1
DOUBLE	3 15	5315 01 1	5315411 1	5322195 2

NOTE. FOR MECHANISM ASSEMBLY SPECIFY TYPE, PART NUMBER, AND RANGE OF INSTRUMENT.
ALSO FOR POINTER (ITEM 5B) SPECIFY WHETHER LEFT, RIGHT, OR BOTH LEFT AND RIGHT ARE DESIRED.
ALSO FOR SCALE (ITEM 6) SPECIFY LEGEND AND RANGE FIGURES.

FIGURE 13 - Parts Drawing P12 5 Vertical Gage Unit

Product Warranty

Bailey Meter Company warrants the products manufactured by it to be free from defects in material and workmanship and will repair or replace, at its option, free of charge, f o b its factory, such part or parts which prove defective within one year from date of shipment In respect to any products which are not an integral part of a product manufactured by the Company, the warranty given by the manufacturer thereof shall apply

Shipping Damage

We strongly recommend that you inspect and test your instrument as soon as you receive it If the instrument is damaged or operates improperly, notify the carrier for inspection of the shipment The carrier's claim agent will prepare a report of damage, a copy of which should be forwarded to your nearest Bailey District Office (see back cover for location) The District Office will then tell you how to have the instrument repaired or replaced

Service

The Bailey Meter Company is vitally concerned that your Bailey instrument provides continued, fine performance This instruction manual is designed to fully describe the correct installation operation and maintenance of your instrument under recommended conditions If the need arises, factory trained Service Engineers are on call for prompt, in plant maintenance Telephone or write your nearby Bailey District Office to make arrangements for this service (see back cover for location and telephone number)

Replacement Parts and Supplies

Complete parts drawings and recommended spare parts kit information are included in this instruction manual When replacement parts or supplies are required for maintenance of your Bailey instrument contact your nearest Bailey District Office (see back cover for location) Always specify complete data on the instrument nameplate on your inquiry or order for parts Common parts are available for shipment within 48 hours on a speed order basis

BAILEY METER COMPANY DISTRICT OFFICES, U.S.A.

CALIFORNIA

San Francisco
Code 415 Phone 989 6140

Los Angeles
Code 213 Phone 283 1187

COLORADO

Denver
Code 303 Phone 757 5408

GEORGIA

Atlanta
Code 404 Phone 378 4348

ILLINOIS

Chicago
Code 312 Phone 427 7324

LOUISIANA

New Orleans
Code 504 Phone 488 0841

MASSACHUSETTS

Boston
Code 617 Phone 426 0465

MICHIGAN

Detroit
Code 313 Phone 357 0440

MINNESOTA

St Paul
Code 612 Phone 645 7752

MISSOUR

Kansas City
Code 816 Phone 361 4907

St Louis
Code 314 Phone 962 5532

NEW YORK

Buffalo
Code 716 Phone 839 3662

New York
Code 212 Phone 986 8770

Schenectady
Code 518 Phone 374 7991

NEW JERSEY

East Orange
Code 201 Phone 674 6830

NORTH CAROLINA

Charlotte
Code 704 Phone 334 9161

OHIO

Cincinnati
Code 513 Phone 281 0132

Cleveland
Code 216 Phone 851 8600

PENNSYLVANIA

Philadelphia
Code 215 Phone 664 3282

Pittsburgh
Code 412 Phone 921 6356

TEXAS

Dallas
Code 214 Phone 363 6295

Houston
Code 713 Phone 774 9605

WASHINGTON

Seattle
Code 206 Phone 324 9300

WISCONSIN

Milwaukee
Code 414 Phone 461 1310

BAILEY METER COMPANY LTD., CANADA

ALBERTA

Edmonton
Code 403 Phone 488 3436

BRITISH COLUMBIA

Vancouver
Code 604 Phone 731 3709

MANITOBA

Winnipeg
Code 204 Phone 943 1481

NOVA SCOTIA

Halifax
Code 902 Phone 455-0574

ONTARIO

Ottawa
Code 613 Phone 722 1373

Toronto
Code 416 Phone 444 8488

QUEBEC

Montreal
Code 514 Phone 489 3881

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